

ABSTRACT

A method is disclosed for real-time (well-site) resistivity anisotropy determination using array lateral logs or any other unfocused, lateral-type measurements, and array induction logs or any other focused, induction-type measurements. Near-vertical wells with a deviation angle of less than 30 degrees are considered. Since with a lateral log, at each logging depth the injected current has both horizontal and vertical components, the data contains information related to both horizontal (R_h) and vertical (R_v) resistivities. With array induction tool, the induced current in near-vertical wells has only a horizontal component, and the induction data contain information related to R_h only. Having those two data sets acquired in the same well, it is possible to instantly estimate the formation resistivity anisotropy using square of a ratio between borehole and invasion corrected lateral and induction focused logs.